



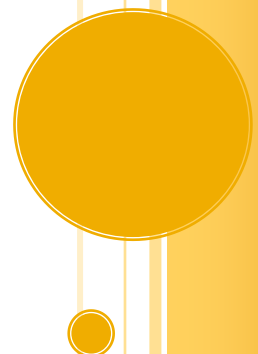
# TECHNOLOGY IN EDUCATION

## *Boon or Bust?*

This report is a compilation of responses from education experts and parents alike on questions dealing with the topic of the use of technology in education. Answers were collected through an online survey, as well as email and phone conversations. The data was then collected, sorted and compiled into this useful report for your consideration on this important topic.

Compiled by Terri Johnson

1/1/2011



# TECHNOLOGY IN EDUCATION

## Boon or Bust?

### WHY ARE WE HERE?

Over the years, our family has become increasingly mobile, probably due to the fact that we now have teenagers in our home who have very busy social lives. We are more “on the go” than ever before. Last spring, we purchased an iPad not long after it made its astounding debut. We already had experience with an iPod Touch, as our son purchased one a few months prior to this. And would you like to know our reaction to this device?



To be honest, it was mixed! In some ways, it seemed like just a large, overgrown iPod Touch. But then, the thrill of its potential began to sweep over us. The iPad is similar to an iPhone or iPod Touch, and yet with the potential to become so much more.

We began to see its educational potential and began to explore the mobile apps in the category of education. If you have done this before, then you know that it is not that easy to find useful and quality educational apps that will actually help our children in their studies and not distract! 😊

That’s how Apps-School came into existence. We hope that it becomes a central place where educators can find, rate and review the best educational apps that currently exist. We hope that we can truly aid you in this process.

### IS THIS REALLY A GOOD IDEA?

But still, the question remains... Is the use of technology for education actually a good idea? Can technological devices help our children to learn more, to learn better? Or will these gadgets hamper or stifle kids in their quest for knowledge?

*It seemed like just a large, overgrown iPod Touch. But then, the thrill of its potential began to sweep over us.*

We set out to find some answers, both by talking with education experts and polling parents for their opinions. I believe that you will find the data to be very fascinating. We will draw some conclusions, but also leave you to draw some of your own.

## THE QUESTIONS

Here are the questions that we posed on this topic:

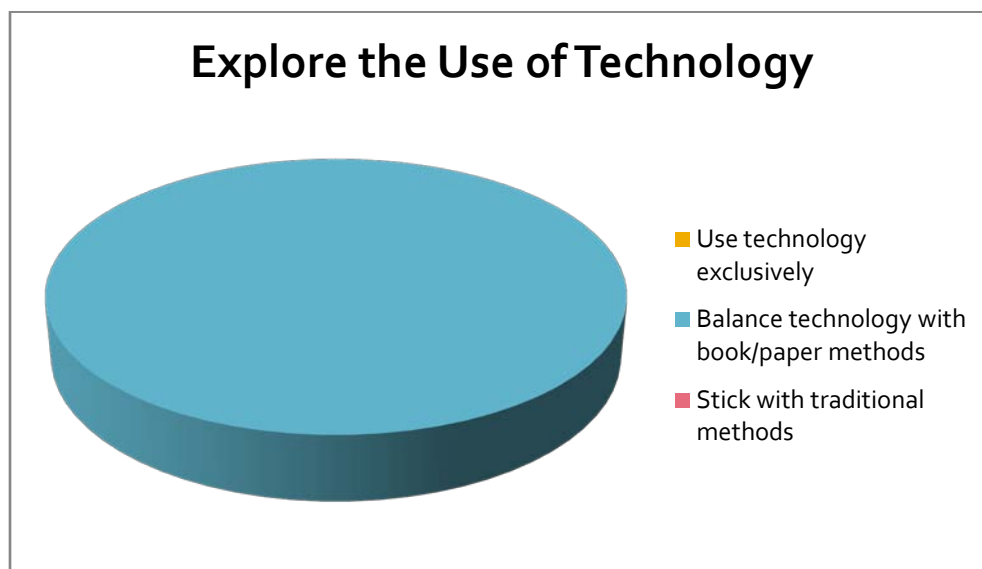
1. *Should home educators explore the use of technology for educational purposes or should they stick with traditional book and paper methods to achieve the greatest success?*
2. *Can the use of technology in moderation be helpful in achieving academic goals?*
3. *Do you believe that education will continue to become more "technical" as the years go on and will we grow to depend upon increasingly technological gadgets in the future?*
4. *Do you believe the use of technological gadgets will expand or hamper education?*
5. *How can technology be used appropriately and successfully with school-aged children?*
6. *Would you recommend waiting until children reach certain milestones in education or perhaps a specified age or grade level before introducing technological gadgets, such as computers, iphones or ipads?*

## THE DATA

Let's look at question 1:

1. *Should home educators explore the use of technology for educational purposes or should they stick with traditional book and paper methods to achieve the greatest success?*

100% of those surveyed said that we should balance technology with book and paper methods!

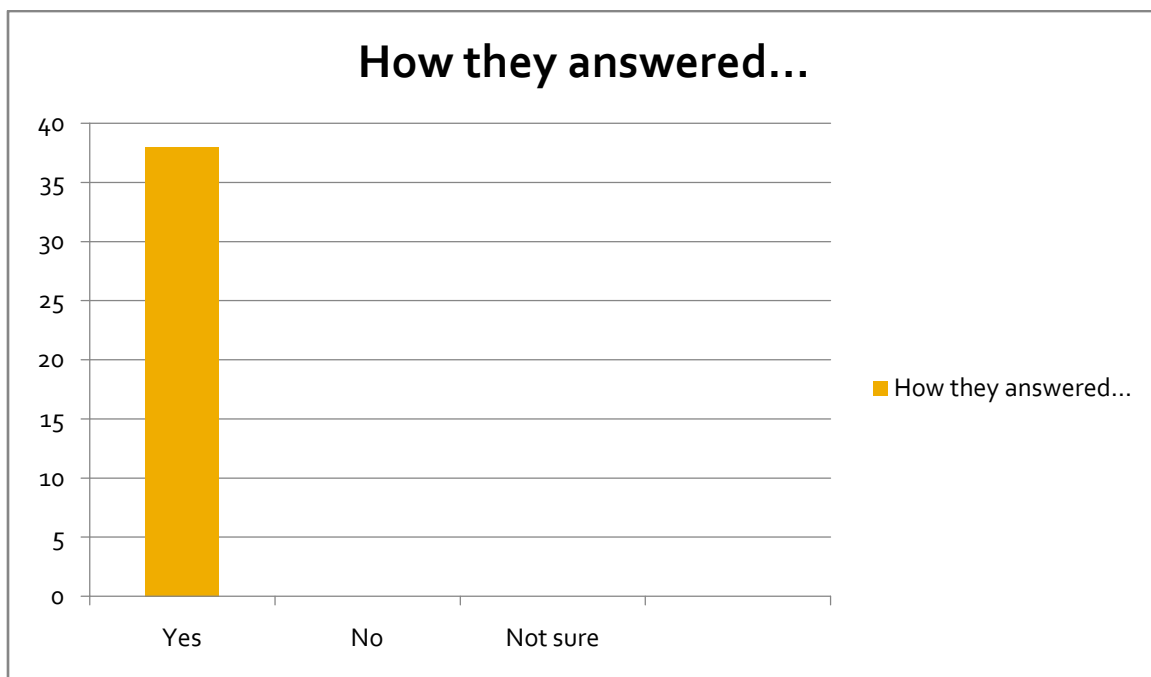


Doug Smith of Simply Charlotte Mason writes, *"Technology is simply a tool or a medium for delivery of information, not unlike how paper, pencils, and books are also tools. Success comes from how we use a tool, not in the tool itself. For example, a child could read the same book as a printed copy or on an electronic e-book reader, but that doesn't change the quality of the book's content. Either way, a good book is still a good book and a lousy book is still a lousy book."*

*"However, technology can enhance that reading experience. Someone reading the same book on an iPad can tap a word to get a dictionary definition or use the Web to look up related information. Now the reader is making additional mental connections to the material that will help the information stick in the mind. That's a huge success factor. Sure, you could also look up words in a paper dictionary or find more information in other books, but we often don't bother. The ease of doing those things on an electronic device makes it much more likely to happen."*

Question 2 produced the same results. 100% of those surveyed said that the use of technology in moderation can be helpful in achieving academic goals!

1. *Can the use of technology in moderation be helpful in achieving academic goals?*



However, Steve Peha of Teaching That Makes Sense, Inc., shares this insight...

*"There is absolutely not a shred of research that has been done in a controlled longitudinal study that shows that extensive use of technology improves student achievement. We simply don't have the data on that. We all assume that using technology helps kids learn and it's reasonable to assume that, but it actually hasn't been proven and nobody really knows why."*

Steve goes on to say, *"The question still remains, that if we have all this technology, why not use it? The question then becomes not **should** we use it but **how should** we use it, and that's where you either get a waste of time and money or a really good result."*

Question 3 generated some more varied responses...

1. *Do you believe that education will continue to become more "technical" as the years go on and will we grow to depend upon increasingly technological gadgets in the future?*

Here are some of the responses to this thought-provoking question:

*"The possibility is there. While we continue to nurture a love of the more "traditional" aspects of education, we can still enjoy the possibilities that come with more technological advancements. There may be a push to rely more on technology, but there will never be a true replacement for the education that comes from being involved in life and trying things with your own hands."* – Anonymous\*

*"Yes, unless the economy crashes and we're forced to revert to primitive methods, due to lack of electricity and such. (Perhaps a long shot or perhaps more likely than we'd like to admit."* – Heather, homeschool mom

*These children are digital natives.  
It truly makes sense to them.*

homeschool mom

*"Yes, these children are digital natives. It truly makes sense to them. We need to make sure that they have the opportunity to perfect it."* – Cora,

*"Children need to know how to read, write, and research what they don't know. Technology can only help that. Jobs in the future are bound to involve technology and to [avoid] it could easily hamper their vocation."* – Anonymous\*

*"Hopefully not. Technology is vulnerable (i.e. viruses, worms, human error). Children should learn the joy of being 'unplugged'."* – Stefanie, homeschool mom

*"I think that the tools available will become increasingly technological, but the foundations of learning should still involve real-life and books."* – Jenn, homeschool mom

*"We are becoming a techno-society and that includes the education system. As homeschoolers, we would be foolish to ignore the technology available. I think it is important to take it in moderation."* – Cariann, homeschool mom

*"Technology's use in education is inevitably going to grow. After all, there was no holding back the pencil! But this is a good thing – for those who use it for good..."*

*Education should embrace whatever tools are available and whatever is best suited to the specific task.*

*Students should be highly trained to use it wisely!"* –

Anonymous\*

*Technology's use in education is inevitably going to grow. After all, there was no holding back the pencil! But this is a good thing.*

*"Absolutely! Right now, the market is truly sad [in the area of] truly educational video and/or computer games. It's ripe for the picking. With the advent of the ipad and netbooks, technology is gearing up to make information more accessible for students of all ages."* – Kim, homeschool mom

*"Yes, I do believe that education will continue on the path to meet technology. One facet of education is teaching children about the wonders of the world and equipping them with the proper tools in order to meet the challenges they may face. Today's adults in the workplace are required to know and understand the use of technology..."* – Anonymous\*

*"We believe books will still play a primary role in education but as schools begin to cut costs with the cost of books and updates to text books there will be an increased move toward PDF based textbooks and interactive applications."*

*"The technology devices such as the iPad will need to come down in price and the cost of printing will need to increase to a cross point where economics will drive the shift. Today the use of the iPad in education is more experimental and a novelty."* – Andy, homeschool dad and app developer

Steve Peha of Teaching that Makes Sense, Inc. writes, *"There's no question that we're going to see an incredible explosion in technology use in education. There's no question that we are going to become over dependent on it. We're already over dependent on it. The real consequence is going to come in the next 5 to 10 years as we begin to replace teachers with computers purely for low-income kids. The next problem we're going to see is once you allow a computer to hook up to the internet through a publisher, the publisher is actually controlling what your child is learning."*

Doug Smith of Simply Charlotte Mason writes, *"Education itself does not become more technical because the basic principles of how we learn never change. However, technology is becoming a more important factor in education by making information more readily available and more explorable."*

*"For availability, look at the amazing work of Project Gutenberg, Google Books, the Internet Archive and others. They have preserved and given us access to many thousands of books, videos, and audio recordings that would have been lost to antiquity or very difficult to obtain. Many homeschooling families have made use of these preserved historical writings that are not economically feasible for a traditional publisher to make available."*

*"And when it comes to making information more explorable and discoverable, there's probably no better example than Google Earth. It's an excellent tool to let a child explore geography in a very natural way. With a click of a computer mouse you can move around the globe, zoom in for fine details, overlay historical maps, and add layers of information like population or agricultural production. Try it on iPad where*



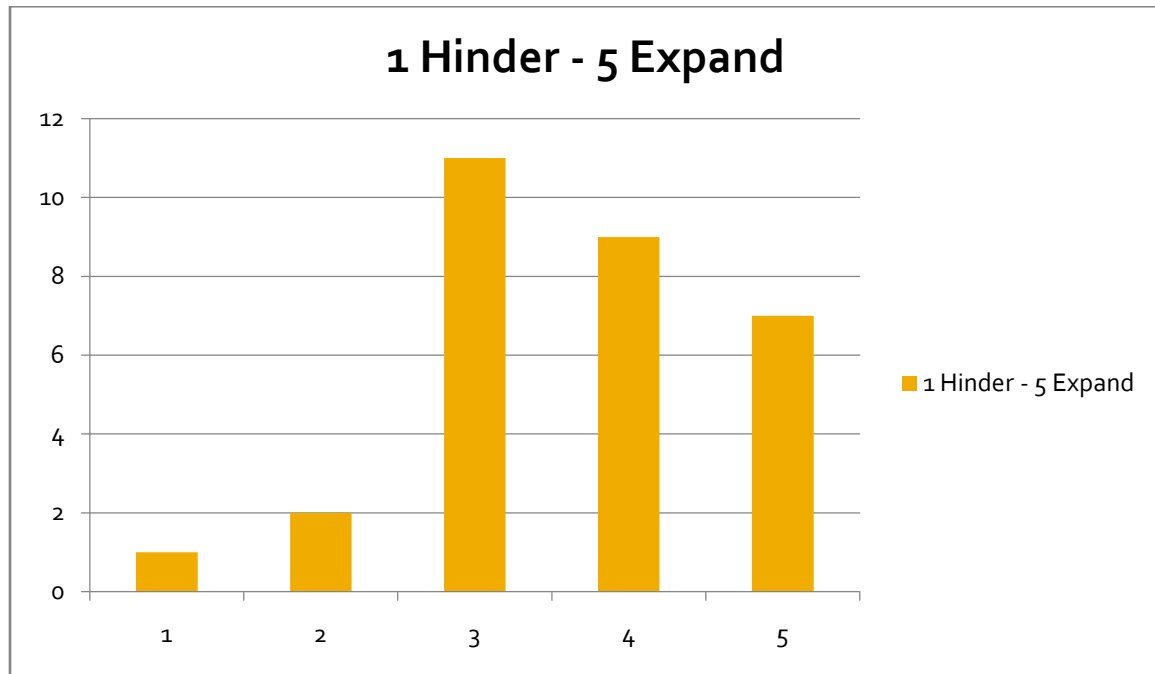
*you can actually touch it to move around and it becomes an amazingly intuitive education experience."*

*"So technology may give us new ways to find and access educational materials, but it doesn't change the basics of learning."*

Although the responses were varied, it is clear that educators and parents alike agree that technology can supply the tools, but only living beings can provide the education.

Here are the survey responses to question 4 in the form of a graph:

1. *Do you believe the use of technological gadgets will hamper or expand education?*



Clearly, a majority of respondents believe that technological gadgets are either neutral or provide aid in educational pursuits.

Let's move on to question #5:

1. *How can technology be used appropriately and successfully with school-aged children?*

Here are some well-thought-out ideas from educational consultants as well as your fellow homeschooling parents:

*"Using the computer for word processing of writing assignments, using the internet or e-encyclopedias for research, doing some educational computer games, having children use Power Point or other applications to include art or photos in presentations."* – Anonymous\*

*"As a supplemental or expansion tool, it can open up a great deal of possibilities for elementary and middle school aged children."* – Laurie, homeschooling mom

*"E-readers [can be used] for downloading old classic public domain books for free (& this saves precious bookshelf space!); computers for research, skills instructions (typing, spelling, etc.) via websites or software; PowerPoint presentations, creating*



*professional-looking presentation materials, live online classes (such as via CurrClick); GPS devices for learning geography, orienteering, etc.; DVDs for learning about many subjects and skills; MP3s for audio books, various music genres and so much more that I can't think of right now.” – Anonymous\**

*"We use Netflix for school videos all the time. I subscribe to Discovery Education. My son's math program is delivered via technology. Many products I download digitally. I newly have mobile internet - we can look up, read, or learn anything nearly anywhere now. \*I\* need to keep myself up to speed to stay abreast of what is available.” – Anonymous\**



*"At this time, the use of technology in our family is for supplemental learning. For example, apps are used to engage and review basic concepts.” – Andy, homeschooling dad and app developer*

*"For research, nothing can beat finding current photographs! Items only seen through a microscope can now be seen by millions of people at one time. The Hubble telescopes have provided instant photos of outer space. Split-second photography is incredible for*

*showing students in a frame-by-frame method how a water drop progresses when hitting a pond, or how a frog catches a bug, or a variety of similar fast-action things. Students can watch the progression of a volcanic eruption, watch a real-time surgery, or chemistry performed in a lab without leaving their living room. The visual aspects of technology greatly enhance the learning experience.” – Anonymous\**

*"We use technology in moderation, with set time limits. It is too easy to allow technology to 'babysit' and that is not appropriate or responsible. Typing programs, math and other reinforcements are acceptable with supervision. It is a matter of staying in conversation with the child and not allowing the technology to do all the 'teaching'.” – Stefanie, homeschooling mom*

*"Computers are helpful in learning to touch-type, research, explore visuals/maps, interactive activities, entertaining and educational activities, which can be customized to an individual child's needs and learning style. Our children learned to touch-type, read, learn math facts, research, prepare documents, artwork, learn problem solving*

*skills, visualize various periods of history, and a host of other skills during elementary and middle school on the computer.” – Anonymous\**

*Games can make education fun and technology based games are included. Also the gadgets available especially in regards to MP3 players and the like have made a child who is always on the go able to hear/ listen to stories, music and ideas while the rest of him is moving.” – Cariann, homeschooling mom*

*“Children can expand their thinking and motor skills through any and all the technology out there. But technology should not be allowed to become their whole experience, eliminating playing outside, pretend games, relating to nature in various ways. Children need to be allowed to get bored. When they get bored they get creative. If they can push a button and be instantly entertained, they will always choose that. I think the real danger from technology is from the entertainment arena, not the educational one.” – Anonymous\**

*“We emphasize experience before virtual and creativity before entertainment. It's more important to play a soccer game on the pitch than use FIFA 2010 on play station. It's more important to practice drums/piano than to use garage band. It's more important to spend time with friends in real life than spend time on Facebook. We limit our children (14 year old girl and 11 year old boy) to two daily twenty minute periods of pleasure on computer and then only on software we've critiqued or websites we've bookmarked.” – Anonymous\**

*Children can expand their thinking and motor skills through any and all the technology out there. But technology should not be allowed to become their whole experience, eliminating playing outside, pretend games, relating to nature in various ways.*

*“We use technology in moderation. Too much screen time can cause damage to a child's eyes. Also, we do not allow unsupervised time on the Internet.” – Karen, homeschooling mom*

Doug Smith of Simply Charlotte Mason writes, *"Living books are like having a huge Thanksgiving feast of ideas in front of you. Twaddle is like filling up on candy instead. It doesn't sustain you."*

*"The concepts of twaddle vs living don't just apply to books. They apply to technology and other things around us as well. Twaddle in any form stifles a love of learning. Technology for technology's sake is twaddle. Blinking lights and bright colors with no lasting substance or depth is twaddle. Technology as a babysitter is twaddle."*

*"But technology that helps us explore, learn, and make lasting mental connections to great ideas is more like living books and that delicious feast."*

Steve Peha of Teaching That Makes Sense, Inc. responds this way, *"There's a perfect answer to that, the same way it's used with adults. And if we are willing to teach kids the responsible use of technology, there is no reason why they can't come into it in the same way that adults come into other things. Most of what we should be doing in school should be introducing kids in a safe environment to age-appropriate aspects of adult life."*

And the final question – #6. Here's how our survey respondents answered:

1. *Would you recommend waiting until children reach certain milestones in education or perhaps a specified age or grade level before introducing technological gadgets, such as computers, iphones or ipads?*



Some of the “other” responses were as follows:

- *As long as the screen is not being used as a babysitter, technology can be introduced at very young ages.*
- *Wait until it is needed – do not use simply because it is there.*
- *Every child is different. It depends upon the child.*
- *Waiting is always better than rushing*
- *Wait until jr. high*

Steve Peha of Teaching That Makes Sense, Inc. responded this way...

*What you have to do is do what all good parents and teachers do, which is watch your child. Technology is not a panacea. It's also not the devil. You got to watch your child. Edward Tenner was very careful in the thesis of his book when he said, "The price of technology is vigilance."*

And Doug Smith's response was...

*Our family has always treated technology as a tool useful for life. So in the same way*

*Our computers are in a public area of the house with parental controls enabled.*

*as we gave our children wood scraps, nails, and a hammer to experiment with, we made computers and technology available from an early age. (Well, computers came much earlier than hammers.)*

*Both came with supervision and direction, of course. Our computers are in a public area of the house with parental controls enabled, etc. As skills and maturity developed then restrictions were gradually relaxed.*

*We've also tried to make opportunities available for our children to pursue their interests, such as digital photography, video production, writing and blogging, etc. Some of the skills they have developed now contribute to our business and the beginnings of their own careers.*

## THE CONCLUSION

We've explored the use of technology (computers, ipads, mobile apps) in education and have found some interesting conclusions. While there is a variety of opinions on the subject, most experts and parents alike agree on some common themes, and these are:

1. Technology in and of itself is not bad, but as parents we must remain diligent.
2. Technological gadgets, software and apps are simply tools that we can choose to use as supplements to an existing education. Books, paper and pencils are probably not going to disappear in the next year or two.
3. Children are not made from cookie cutters and what works well for one child may not work so well with another child. The same is true for families.
4. If you can afford it and it is not "twaddle" but has real educational value, then why not use it and give it a try. The next generation needs to be fluent in computers and mobile devices.
5. Our children are digital natives. Technology is second-nature to them and it makes sense. Even if we don't get it, they probably do!
6. To prepare our children well for their future careers, we need to make sure that they can type and are well acquainted and comfortable with word processing programs, spreadsheets, presentation software, mobile technology, etc.
7. Children should not be left unsupervised, especially on the Internet. Computers and ipads are not babysitters and cannot replace real relationships and face-to-face communication.
8. Keep computers and other devices that access the Internet in family rooms and install content filters. We recommend Safe Eyes – [www.internetsafety.com](http://www.internetsafety.com).
9. If you don't have it and can't afford it, don't worry about it. Learning takes place everywhere and you don't need the latest gadget in order to learn and/or succeed.
10. We do not need to fear technology itself or high-tech gadgets. We can simply use them as the tools that they are designed to be. However, we should be careful not to become overly dependent on something that can crash and leave us high and dry.

However you choose to use technology in your children's education, we are here to help. Visit [www.apps-school.com](http://www.apps-school.com) to find out what is new and great in educational mobile apps. This is YOUR place to find, rate and review the best educational apps!

## THANK YOU!

We like to say "Thank you!" to all of you who completed our online survey. And we'd like to extend a special thanks to Steve Peha and Doug Smith, our education experts, who gave away precious time from their days to answer these questions both over the phone and through email. We'd like to tell you a little bit more about each one of these experts in their field.

**Steve Peha** is the CEO of Teaching That Makes Sense, Inc. (<http://www.ttms.org>), which is an education consulting company based in Carrboro, North Carolina. It's right next to Chapel Hill. And we work in the US and Canada, primarily at K-12 but a little bit at the college level, helping schools and districts handle all the challenges of reform from simple things like raising test scores to more complicated things like designing curriculum or providing large-scale training.

**Doug Smith** is a homeschooling father of four and co-founder of Simply Charlotte Mason (<http://simplycharlottesmason.com>). He and his wife Karen have been homeschooling for more than fifteen years and have graduated two children. On most days you'll find Doug working on the Simply Charlotte Mason website and helping the homeschoolers who frequent its pages. He has a passion for discipling his children, encouraging others on their homeschool journey, and making technology understandable in plain English.

Thanks for reading this report. We hope that it was enlightening for you and that you are well informed to use technological advances for the purpose of education in a healthy and safe way. We do not recommend that your family use the Internet without content filters installed. We use Safe Eyes and are very pleased with the service and level of protection and accountability that they provide. It is not the only content filter out there, but it is the one that we have had good experience with.

